

Hannah Burgus
Mediapolis Community High School
Mediapolis, IA

Biofuels: Promises and Implications for Food Security in Developing Countries

INTRODUCTION

“Ethiopia is a country easy to fall in love with but likely to break your heart.” This quote by Rekha Basu who works for the Des Moines Register says it all (7). Ethiopia, land of poverty, economic struggle, disease, and lack of education for the impoverished and destitute, is a land that needs help facing the struggles of everyday survival. Meeting everyday basic needs is a task that for some, especially those in the United States, is sometimes taken for granted, however it is imperative that we don’t lead ourselves to our own form of educational blindness and leave unnoticed a country that so desperately needs help in forming a plan of action to solve the challenging issue of food security in the twenty-first century. The promises and implications of biofuels for food security in developing countries such as Ethiopia require immediate and careful consideration from the International Community. It is quite possible that adopting economic policies involving the implementation of biofuels would be an excellent way to change the current trends in Ethiopia. While a large percentage of the Ethiopian population might not know how to read, what they do know is what they need. As said in the Ethiopian National Anthem, “The children are heartically calling from over the distant seas.” It is possible that biofuels will lead to a future where the destitute will no longer be destitute, the starving children no longer starving and the future of Ethiopia will be bright.

TYPICAL SUBSISTANCE FAMILY FARMS

Subsistence family farms in Ethiopia can be explained by thoroughly looking at the many qualities of life they entail. Family composition, diet, education and income are all important because they demonstrate some of the extreme conditions of Ethiopians. Farm size, crops grown, agricultural practices, marketing, and productivity barriers also drastically affect the family farmers.

Family Composition

Family Composition in Ethiopia can differentiate but usually families are composed of over eight people living in the same home (8). Ethiopians consider placing family members in nursing homes insulting and think very highly of the elderly and the fathers are in charge of the household until they die at which time the property is handed down to their son(s) (8). Women are responsible for so many things and are a vital part of the Ethiopian household. Girls can be forced to marry at the raw age of as young as eight or nine years old (7). Some of the basic responsibilities of a woman are cooking, cleaning, obtaining and carrying heavy buckets of water, collecting fuel for fires, weeding, harvesting, and selling crops at the market (9). Men however, are much less involved in the agricultural process having only the basic duty of plowing and often times it is the children who tend to the animals (9).

Education

Education is also an example of one of the many disadvantages women in Ethiopia have. Boys are given precedence in getting sent to school because they are thought of as more likely to succeed and because girls have so many responsibilities at home that they cannot abandon (9). Schools may be forced to cram eighty to one hundred and twenty students into a classroom at one time (7). It is also hard for many families, especially in the more rural areas, to pay for their daughters’ education because of the fees, supplies, and uniforms required which in many cases closes the door to their education (9). If a young girl does have the advantage of attending school her education will probably still be hindered in comparison to a boy because of the chores she has to do at home (9).

Diet

Another principle aspect of Ethiopian families is diet. The diet is generally centered on sauces with various meats (4). Some religions require vegetarian diets and in these cases vegetarian sauces are made and consumed with bread, much like a pancake, called injera (4). Injera is made of the most substantial Ethiopian food available, teff grain, and is so important that it alone makes up two thirds of the Ethiopian diet (4). Teff is a remarkable grain that provides an excellent source of calcium, phosphorus, iron, copper, aluminum, barium, and thiamine that would otherwise be lacking in their diets (4).

Income and Farm Size

The Ethiopian population is skyrocketing while the economic standings are appalling (6). Ethiopia continues to be one of the poorest countries in the entire world with fifty percent of residents falling below the poverty line (6&5). This could be in part because of the lack of opportunity to own land (6). Citizens are allowed to rent land from the government for up to ninety-nine years but are limited to this by the Ethiopian Constitution and cannot actually own or sell the land themselves (6). Farmers trying to advance their family farm are disadvantaged because of this and don't have collateral to use in order to attain loans (5). Women are prohibited by their traditions to have land distributed in their name (12).

Crops Grown

The vast varieties of land, which spreads from deserts in the east to forests in the south force differentiation in crops, produced throughout the nation (6). Rainfall is the underlying factor for the success of raising crops (6). If a drought occurs like it did in 2000 and 2001 up to 10,000 people would die from the lack of meeting basic nutritional needs (5). The most widespread crops grown are coffee, pulses, oilseeds, cereals, potatoes, sugarcane, and vegetables (6). These crops grow best during times like the middle of June through September because of the more substantial amounts of rain that fall during these months (6).

Agricultural Practices and Marketing

The total size of Ethiopia is around two times the size of the state of Texas (5). Meanwhile, only 10.7 percent of this land is procreant and only 0.75 percent is used for permanent crops (5). One of seven throughout the world, Ethiopia has the advantage in being an important place of origin for cultivated plants (6). Forests don't seem to be as successful and soil erosion combined with a loss of nutrients the soil contains is a not good sign for future crop production (6). Currently, organizations like SOS and Farm Africa are implementing a plan to train people on erosion reduction and irrigation in an effort to save the forests (6). Even the Ethiopian government is trying to take preventative measures by providing non-timber fuel resources to those in rural areas (6). Marketing is dependant on agriculture because eighty percent of the laborers and forty-one percent of the gross domestic products are agriculturally based (6). Marketing through televisions is almost non-existent because many families don't have access to TV's and the one television station that is accessible to those with televisions is owned and controlled by the government (6).

Barriers to Improving Agricultural Productivity and Income

Ethiopia is faced with many barriers that stunt the agricultural productivity and income of the people. The greatest problem they are faced with is the dependence on food imports for survival (5). The issue doesn't exist mainly because of a lack of farming, but however on the amount of farming that is done for the purpose of subsistence instead of producing for other consumers to buy (6). Possible causes for this are lack of resources or unprosperous management (5). There is definitely a lack of transportation resources through out the country and very few roads are open for travel year-round (5).

Some Ethiopians may still remember the harsh years of 1972 and 1973. These were the years of the Wallo Famine where upwards of 200,000 people died because of food shortages and discontent

throughout the nation (6). The emperor, Mengistu Haile Mariam, appended these losses when he tried to cover up the famine (6). Problems like these should also be considered when trying to improve productivity and raise income so the government can avoid a repeat of the situation.

FORMULATING PUBLIC POLICY INITIATIVE TO ADDRESS INCREASING POPULATIONS, RAPID URBANIZATION, AND GENDER OR CULTURAL DISCRIMINATION

Formulating public policies to solve three major problems of increasing populations, rapid urbanization, and gender/cultural discrimination would give possibility and hope to the country of Ethiopia.

The Problem

Women are substantial human resources for the nation and the economy is dependant on their work. However, most women are discriminated against by being allowed fewer opportunities to advance personally as well as in their jobs or education (11). The Family Arbitration System denies woman the rights to many crucial resources because of the biases they hold (12). Population growth has led Ethiopia to become the runner up for the nation with the highest population (6). As of the early 1990's just over one-fourth of these people could access water that was safe to drink (5). One's need of attaining water for survival would most definitely come before the wants of irrigating one's crops.

Present Status

Currently, 48 percent of Ethiopian children below the age of five years are underweight while 64 percent are seeing the affects of this on their bodies and have stunted growth (5). The situation is so severe that for some young women the only hope for survival is to sell their bodies for sexual activities (7). Women cannot help to improve the environmental situations because many of them have to live in fear in order to get an education (7). Every time the girls go to and from school there is the chance that they will be abducted and raped (7). After being raped they are most likely to be forced to marry the offender because they are no longer virgins and will disgrace their families if they do not marry (7). This problem is a supplementary one to the increasing population. Thirty-six percent of women aren't ready to have children but have no other choice because they are not using family planning materials (3). The access to civil courts and legal assistance is absent for women so they have to go along with what they are told to do by their male partners or face violence (12).

Trends

The population is growing, and quickly. The population growth rate is 2.36 percent (5). One and a half million people are suffering from HIV/AIDS (5) and 4.4 percent of anguished people between the age of fifteen and forty-nine are stricken with the deadly disease (3). Approximately one half of the entire population is "undernourished" according to the World Bank (5). These discouraging measurements along with the growing population rate indicate that public policy is crucial to improving the quality of life for these luckless people.

Improvements

Improving these crippling factors would most definitely increase the amount of food and income available to families because they would have a better-rounded lifestyle. More rights given to women would lead to safety and the opportunity for an education. A better education would lead to increased knowledge and better job opportunities. Following the pattern would come higher salaries for women and the women would have more knowledge and experience to put back into their communities and country to improve the quality of life for everyone in the area. Everything from the economy to the environment would benefit from the simple decision of giving more rights to women.

BIOFUELS: PROMISES AND IMPLICATIONS

Implementing biofuels is an excellent way to change the current trends in Ethiopia. Production could improve the yield of subsistence farm families by increasing the demand for products such as corn, sugarcane, miscanthus, sugar beet, sorghum, grain sorghum, switch grass, barley, hemp, potatoes, sweet potatoes, fruit, grain, wheat, straw, kenaf, and cotton, all of which can be grown by farmers in Ethiopia with the right implements and instruction (1). Miscanthus, a lesser known perennial, grows in subtropical and tropical areas of Africa (1). It is one of the best choices to utilize as a biofuel because of how quickly it grows and the high yields it produces (1). Kenaf is another option available. Thriving for over 400 years in Africa, Kenaf is proven conditioned to the climate (10). Kenaf has a tremendous importance in the future of biofuels in Ethiopia because it can be used for both food and fuel and contains great amounts of antioxidants. Humans and animals eat the leaves alike and the leftover stalks can be burned to make fuel (10). Using crops like these gives subsistence farmers a way to utilize their leftovers while also making money and it is crops like these that will help the farmers improve their qualities of lives (10).

IMPLEMENTING BIOFUELS: THE PROCESS

Formulating public policies should start with where the base of the problem generates. Abundant amounts of women throughout the nation of Ethiopia aren't equipped for the responsibilities of having children but in some cases it is forced because of a lack of family planning materials. The government of Ethiopia needs to set up programs to educate people about options that are available to them and assist them in obtaining contraceptives, if they so wish to utilize them.

Next, gender discrimination needs to be taken seriously. Women should have the rights to a fair trial and should have an opportunity to press charges against men that have violated their personal rights. If women had more rights, it would be more difficult for men to take advantage of them without punishment. Women in return could walk to and from school feeling safe and would have the opportunity to get an education.

Finally, urbanization would decrease if crops were utilized for biofuels because more people would have jobs in rural areas and wouldn't have the need to move to the city to survive. The government should take advantage of these options and educate the people on how to grow crops, set up a loan system that allows them to purchase land, and give them supplies such as seed to get them started. Farmers could then sell biofuel products to government organizations, which would then export them to other countries. The government and the farmers would both benefit substantially through a policy like this.

The government might have to apply some of its own funds towards these policies to get them going but the outturn and benefits these policies would provide for the economy would more than pay off.

ROLES OF ORGANIZATIONS

Organizations such as World Bank, the Ethiopian government, and the United Nations could all assist in the education process and deciding on fair policy. If the people are well educated they will be more successful and this will be demonstrated in the outcome of the policies.

These organizations should also strive to improve marketing throughout the nation to ensure that once the products are produced they are sold to consumers. Through these organizations comes contact with numerous people from numerous countries. It is the role of these organizations to use these acquaintances to their advantage to market Ethiopian biofuel products especially during a time where the biofuel market is booming.

CONCLUSION

In conclusion, the Ethiopian people need help. In times of poverty, starvation, disease, and economic struggle it is imperative that a plan of action be taken to help the impoverished. Women's rights, education, population control, and marketing are all issues calling to everyone across the world

from the heart of Ethiopia. “Ethiopia is a country easy to fall in love with but likely to break your heart” (7). Let us not contribute to their heartache. It is imperative that we don’t lead ourselves to our own form of educational blindness and leave unnoticed a country that so desperately needs help in forming a plan of action to solve the challenging issue of food security in developing countries such as Ethiopia. These issues require immediate and careful consideration from the International Community. It is quite possible that adopting economic policies involving the implementation of biofuels would be an excellent way to change the current trends in Ethiopia. Perhaps the literacy rate is only 50.3 percent for males and 35.1 percent for females (5). These people might not all know how to read, but what they do know is what they need. As said in the Ethiopian National Anthem, “The children are heartically calling from over the distant seas.” Perhaps if policies are implemented and biofuels are produced, sometime in the future, the economic destitute will no longer be destitute, the starving children no longer starving, and the future of Ethiopia bright.

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